

APPENDIX 2 – Minimum Technical Requirements for Stormwater Management at New Development and Redevelopment Sites

This Appendix is applicable, at a minimum, to all new development, redevelopment projects greater than one acre and to construction site activities that result in a land disturbance of equal to or greater than one acre. This Appendix also applies to projects less than one acre that are part of a larger common plan of development or sale. The one acre threshold, including the exception noted above, is defined as the “Regulatory Threshold.” If the Regulatory Threshold applies, then the “Minimum Technical Requirements” in this Appendix, including all definitions and any “Technical Thresholds” that are less than one acre, shall be applied by all Permittees. This Appendix is excerpted and adapted from Chapter 2 of the *Stormwater Management Manual for Eastern Washington*, including corrections and clarifications posted to the Department’s website on or before [insert the date of issuance of this permit], and the May 12, 2005 preliminary draft of the *Construction Stormwater General Permit*.

New Development

Definition

New development is the conversion of previously undeveloped or pervious surfaces to impervious surfaces and managed landscape areas not specifically exempt in the “Exemptions” or “Partial Exemptions” sections below. Projects that add new lanes on an existing roadway or otherwise expand the pavement edge are included in the definition of new development because they create new impervious surfaces; these projects are subject to the thresholds and requirements set forth in this Appendix.

Requirements

All new development projects that meet the Regulatory Threshold must comply with:

- Core Element #1 Preparation of a Stormwater Site Plan,
- Core Element #2 Construction Stormwater Pollution Prevention,
- Core Element #3 Source Control of Pollution
- Core Element #4 Preservation of Natural Drainage Systems, and
- Core Element #8 Local Requirements.

When the Technical Thresholds for Core Element #5 Runoff Treatment are met, the following Core Elements also apply:

- Core Element #5 Runoff Treatment, and
- Core Element #7 Operation and Maintenance.

When the Technical Thresholds for Core Element #6 Flow Control are met, the following Core Elements also apply:

- Core Element #6 Flow Control, and
- Core Element #7 Operation and Maintenance.

Redevelopment

Definitions

Redevelopment is defined as the replacement or improvement of impervious surfaces on a developed site. Impervious surface replacements defined as exempt activities in the “Exemptions” section below and other projects identified in the “Partial Exemptions” section below have reduced requirements. The project proponent must identify what Core Elements apply to all of the new and replaced impervious surfaces created by the project. All new impervious surfaces added during a redevelopment project are subject to the Core Elements identified in the “New Development” section above. The following requirements apply to the impervious surfaces altered or replaced by a redevelopment project.

Pollutant Generating Impervious Surfaces (PGIS) are considered to be significant sources of pollutants in stormwater runoff. Such surfaces include those that are subject to vehicular use, industrial activities, or storage of erodible or leachable materials that receive direct rainfall or run-on or blow-in of rainfall. Metal roofs are considered to be PGIS unless coated with an inert, non-leachable material. Roofs that are subject to venting of indoor pollutants from manufacturing, commercial or other operations or processes are also considered PGIS. A surface, whether paved or not, shall be considered PGIS if it is regularly used by motor vehicles. The following are considered regularly-used surfaces: roads, unvegetated road shoulders, bike lanes within the traveled lane of a roadway, driveways, parking lots, unfenced fire lanes, vehicular equipment storage yards, and airport runways.

Average Daily Traffic (ADT) and Trip Ends represent the expected number of vehicles using a roadway or parking area. Projected average daily traffic volumes considered in designing a roadway or projected trip end counts for a parking area are associated with the proposed land use. ADT volumes and trip end counts must be estimated using “Trip Generation” published by the Institute of Transportation Engineers or from a traffic study prepared by a professional engineer or transportation specialist with expertise in traffic volume estimation. ADT and trip end counts shall be made for the design year or expected life of the project (the intent is for treatment facilities to be added in the soonest period of disruptive construction). For project sites with seasonal or varied use, evaluate the highest period of expected traffic impacts.

High-Use Sites generate high concentrations of oil due to high traffic turnover or the frequent transfer of oil and/or other petroleum products. High-use sites are land uses where sufficient quantities of free oil are likely to be present such that they can be effectively removed with special treatment. A high-use site is any one of the following:

- A road intersection with expected ADT of 25,000 vehicles or more on the main roadway and 15,000 vehicles or more on any intersecting roadway, excluding projects proposing primarily pedestrian or bicycle use improvements; or
- A commercial or industrial site with an expected trip end count equal to or greater than 100 vehicles per 1,000 square feet of gross building area (best professional judgment should be used in comparing this criterion with the following criterion); or
- A customer or visitor parking lot with an expected trip end count equal to or greater than 300 vehicles (best professional judgment should be used in comparing this criterion with the preceding criterion); or

- Commercial on-street parking areas on streets with an expected total ADT count equal to or greater than 7,500; or
- Fueling stations and facilities; or
- A commercial or industrial site subject to petroleum storage and transfer in excess of 1,500 gallons per year (not including locations where heating fuel is routinely delivered to end users and the annual amount of heating oil used at the site is the sole basis for the site meeting this definition; heating fuel handling and storage facilities are subject to this definition); or
- A commercial or industrial site subject to use, storage, or maintenance of a fleet of 25 or more diesel vehicles that are over 10 tons gross weight (trucks, buses, trains, heavy equipment, etc.); or
- Maintenance and repair facilities for vehicles, aircraft, construction equipment, railroad equipment or industrial machinery and equipment; or
- Outdoor areas where hydraulic equipment is stored; or
- Log storage and sorting yards and other sites subject to frequent use of forklifts and/or other hydraulic equipment; or
- Railroad yards.

Requirements

When the following conditions (Technical Thresholds for Redevelopment) are met at a redevelopment project that meets the Regulatory Threshold, the Core Elements identified below apply to the replaced impervious surfaces. For projects that are implemented in incremental stages, the Technical Thresholds for Redevelopment apply to the total amount of impervious surfaces replaced at full build-out. The Technical Thresholds for New Development apply to the total amount of impervious surfaces added at full build-out.

To maintain their integrity and function, stormwater treatment facilities must be sized for the entire flow that is directed to them.

Where alteration or replacement of 5,000 square feet or more of existing PGIS occurs:

- **Core Elements 1, 2, 3, and 8** shall be applied to the entire site that is affected by the project activities.
- **Core Element 4** shall apply to the portion of the site where any impervious surfaces are replaced (includes both PGIS and NPGIS areas).
- In addition to the above requirements, **Core Elements 5 and 7** shall be applied to the replaced PGIS area at the site if any of the following conditions exist. Unless otherwise noted, the project is only required to provide basic runoff treatment to remove solids.
 - The project takes place at an industrial site as defined by EPA (40 CFR 122.26(b)(14)) with outdoor handling, processing, storage, or transfer of solid raw materials or finished products. Additional treatment to remove metals is required for sites that are subject to benchmark monitoring requirements for metals.
 - The project takes place at a commercial site with outdoor storage or transfer of solid raw materials or treated wood products.

- A need for additional stormwater control measures has been identified through a TMDL or other water cleanup plan or other planning process.
- The project takes place at a “high-use site.” Additional treatment must be provided to remove oil at high-use sites.
- The project takes place in an area subject to vehicular traffic under any of the following conditions (preservation/maintenance projects and some improvement or safety enhancement projects that do not increase motorized vehicular capacities are exempt from the Core Elements as defined in the “Exemptions” and “Partial Exemptions” sections below):
 - a) The project improves a soft shoulder to a curb and gutter roadway with an ADT of 7,500 or more vehicles.
 - b) The project replaces and/or improves the surface of a parking area where the projected number of trip ends exceeds 40 per 1,000 square feet of building area or 100 total trip ends per day. Additional treatment to remove both oil and metals is required if the projected number of trip ends exceeds 100 per 1,000 square feet of building area or 300 total trip ends per day.
 - c) The project replaces and/or improves the surface of an urban road where the projected ADT is 7,500 or more vehicles per day. Additional treatment to remove both oil and metals is required if the ADT is greater than 30,000 vehicles per day. Urban roads are located within designated Urban Growth Management Areas. Partially controlled limited access highways located inside of Urban Growth Management Areas are considered urban roads. Freeways, defined in (d) below, are not considered urban roads for the purpose of applying this Core Element.
 - d) The project replaces and/or improves the surface of a freeway, rural road, or highway with limited access control where the projected ADT is 15,000 or more vehicles per day. Additional treatment to remove both oil and metals is required if the ADT is greater than 30,000 vehicles per day. Rural roads are located outside designated Urban Growth Management Areas. Freeways, defined as multilane arterial highways with full access control, may be located either inside or outside of Urban Growth Management Areas. Sorptive, not separator, oil control technologies are required for roads with ADT greater than 30,000. Basic treatment methods with sorptive properties, such as swales or filters, could be selected to fulfill this requirement; or catch basin inserts might be used at these sites.
 - e) The project affects the area within 500 feet of a controlled intersection on a limited access control highway with projected ADT of 7,500 or more vehicles per day. Only this area must be treated.
- In addition to the above requirements, **Core Elements 6 and 7** shall be applied to all of the replaced impervious surfaces at the site (both PGIS and NPGIS areas) if flow control to protect stream morphology and/or habitat is required by the state, federal, or local jurisdiction based on flooding studies or habitat assessments.

Exemptions

The following practices are exempted from the Minimum Technical Requirements:

Forest Practices

Forest practices regulated under Title 222 WAC are exempt. Conversions of forest lands to other uses are not exempt.

Commercial Agriculture

Commercial agriculture practices involving working the land for production are generally exempt. However, the construction of impervious surfaces is not exempt.

Road and Parking Area Preservation/Maintenance

The following road and parking area maintenance practices are exempt (see also Partial Exemptions below):

- Pothole and square cut patching;
- Crack sealing;
- Resurfacing with in-kind material without expanding the road prism;
- Overlaying existing asphalt or concrete pavement with bituminous surface treatment (BST or “chip seal”), asphalt or concrete without expanding the area of coverage;
- Shoulder grading;
- Reshaping/regrading drainage systems; and
- Vegetation maintenance.

Partial Exemptions

The following practices are generally exempted from all of the Minimum Technical Requirements except for Core Element #1 Preparation of a Stormwater Site Plan and Core Element #2 Construction Stormwater Pollution Prevention:

Underground Utility Projects

Underground utility projects that replace the ground surface with in-kind material or materials with similar runoff characteristics are subject only to Core Element #1 Preparation of a Stormwater Site Plan and Core Element #2 Construction Stormwater Pollution Prevention.

Road and Parking Area Preservation/Maintenance

A preservation or maintenance project is defined as preserving/protecting infrastructure by rehabilitating or replacing existing structures to maintain operational and structural integrity, and for the safe and efficient operation of the facility. Maintenance projects do not increase the traffic capacity of a roadway or parking area. The following practices are subject only to Core Element #1 Preparation of a Stormwater Site Plan and Core Element #2 Construction Stormwater Pollution Prevention:

- Removing and replacing a concrete or asphalt roadway to base course or subgrade or lower without expanding or improving the impervious surfaces.
- Repairing the roadway base or subgrade.
- Overlaying existing gravel with bituminous surface treatment (BST or “chip seal”) or asphalt or concrete without expanding the area of coverage, or overlaying BST with asphalt, without expanding the area of coverage. For this type of project, partial exemption applies only under the following conditions:

- For roads, these practices are exempt from additional Core Elements only if the traffic surface will be subject to an average daily traffic volume of less than 7,500 on an urban road or an average daily traffic volume of less than 15,000 vehicles on a rural road, freeway, or limited access control highway. If these thresholds are exceeded, refer to the Redevelopment section above to determine which Core Elements apply.
- For parking areas, these practices are exempt from additional Core Elements only if the traffic surface will be subject to less than 40 trip ends per 1,000 square feet of building area or 100 total trip ends. If these thresholds are exceeded, refer to the Redevelopment section above to determine which Core Elements apply.

Safety Improvement Projects

Projects to improve motorized and/or non-motorized user safety that do not enhance the traffic capacity of a roadway are subject only to Core Element #1 Preparation of a Stormwater Site Plan and Core Element #2 Construction Stormwater Pollution Prevention except as specified under sub-item (a) under conditions for applying Core Element #5 Runoff Treatment in the Redevelopment section above. Certain safety improvement projects such as sidewalks, bike lanes, bus pullouts and other transit improvements must be evaluated on a case-by-case basis to determine whether additional Core Elements apply. A safety project that enhances the traffic carrying capacity of a roadway is not exempt from other Core Elements.

Permittees shall keep records of all projects granted exemptions to the Core Elements, pursuant to **S8** of this permit.

Local Exceptions/Variations

Requirements

Exceptions to the Core Elements may be granted prior to permit approval and construction. The local jurisdiction may grant an exception following an application for an exception with legal public notice per the local jurisdiction's guidance and requirements for exceptions and variances. The administrator's decision should include a written finding of fact that documents the following:

- There are special physical circumstances or conditions affecting the property such that would prohibit the strict application of these provisions; and
- Every effort has been made to find alternative ways to meet the objectives of the Core Elements; and
- The granting of the exception or variance will not be detrimental to the public health and welfare, nor injurious to other properties in the vicinity and/or downstream, and to the quality of waters of the state; and
- The exception is the least possible exception that could be granted to comply with the intent of the Core Elements.

If the local jurisdiction chooses to allow jurisdiction-wide exceptions or variances to the requirements of the Manual, those exceptions must be approved by Ecology or other agency exercising its permitting authority. Permittees shall keep records of all local exceptions/variances to the Core Elements, pursuant to **S8** of this permit. Project-specific design deviations based on site-specific conditions generally do not require approval of the permitting authority and are left to the discretion of the local jurisdiction.

Core Element #1: Preparation of a Stormwater Site Plan

Requirements

All projects that meet the Regulatory Threshold and are subject to the Minimum Technical Requirements are expected to complete a Stormwater Site Plan (SSP). When required, Stormwater Site Plans shall be prepared in accordance with Chapter 3 of the *Stormwater Management Manual for Eastern Washington*, or an equivalent document.

Projects proposed by departments and agencies within the local jurisdiction must comply with this requirement. The local jurisdiction shall determine the process for ensuring proper project review, inspection, and compliance by its own departments and agencies.

Core Element #2: Construction Stormwater Pollution Prevention

Requirements

Construction Stormwater Pollution Prevention Plan (SWPPP) Elements: All projects meeting the Regulatory Threshold are responsible for preventing erosion and discharge of sediment into surface waters and must consider each of the twelve elements of pollution prevention in order to determine which controls are appropriate for the project site. Each of the twelve Construction SWPPP elements listed below must be included in the narrative of the SWPPP and implemented unless site conditions render the element unnecessary and the exemption from that element is clearly justified in the SWPPP. Appropriate Best Management Practices (BMPs) for each of these elements are identified and described in Chapter 7 of the *Stormwater Management Manual for Eastern Washington*; BMPs also may be selected from other approved or equivalent documents.

1. Mark Clearing Limits:

- a. Prior to beginning land disturbing activities, including clearing and grading, clearly mark all clearing limits, sensitive areas and their buffers, and trees that are to be preserved within the construction area.
- b. The greatest practicable amount of the duff layer, native top soil, and natural vegetation shall be retained in an undisturbed state.

2. Establish Construction Access:

- a. Construction vehicle access and exit shall be limited to one route if possible.
- b. Access points shall be stabilized with quarry spalls or crushed rock to minimize the tracking of sediment onto public roads.
- c. Wheel wash or tire baths shall be located on site, if the stabilized constructions entrance is not effective in preventing sediment from being tracked onto public roads.
- d. If sediment is tracked off site, roads shall be cleaned thoroughly at the end of each day, or more frequently during wet weather. Sediment shall be removed from roads by shoveling or pickup sweeping and shall be transported to a controlled sediment disposal area.
- e. Street washing is allowed only after sediment is removed in accordance with 2.d above. Street wash wastewater shall be controlled by pumping back on site or otherwise be prevented from discharging into systems tributary to state surface waters.

3. Control Flow Rates:

- a. Properties and waterways downstream from development sites shall be protected from erosion due to increases in the volume, velocity, and peak flow rate of stormwater runoff

from the project site, as required by local plan approval authority.

b. Where necessary to comply with 3.a above, stormwater retention/detention facilities shall be constructed as one of the first steps in grading. Detention facilities shall be functional prior to construction of site improvements (e.g., impervious surfaces).

c. If permanent infiltration ponds are used for flow control during construction, these facilities should be protected from siltation during the construction phase.

4. Install Sediment Controls:

a. Stormwater runoff from disturbed areas shall pass through a sediment pond, or other appropriate sediment removal BMP, prior to leaving a construction site or prior to discharge to an infiltration facility. Runoff from fully stabilized areas may be discharged without a sediment removal BMP, but must meet the flow control performance standard of 3.a above.

b. Sediment control BMPs (sediment ponds, traps, filters, etc.) shall be constructed as one of the first steps in grading. These BMPs shall be functional before other land disturbing activities take place.

c. BMPs intended to trap sediment on site must be located in a manner to avoid interference with the movement of juvenile salmonids attempting to enter off-channel areas or drainages.

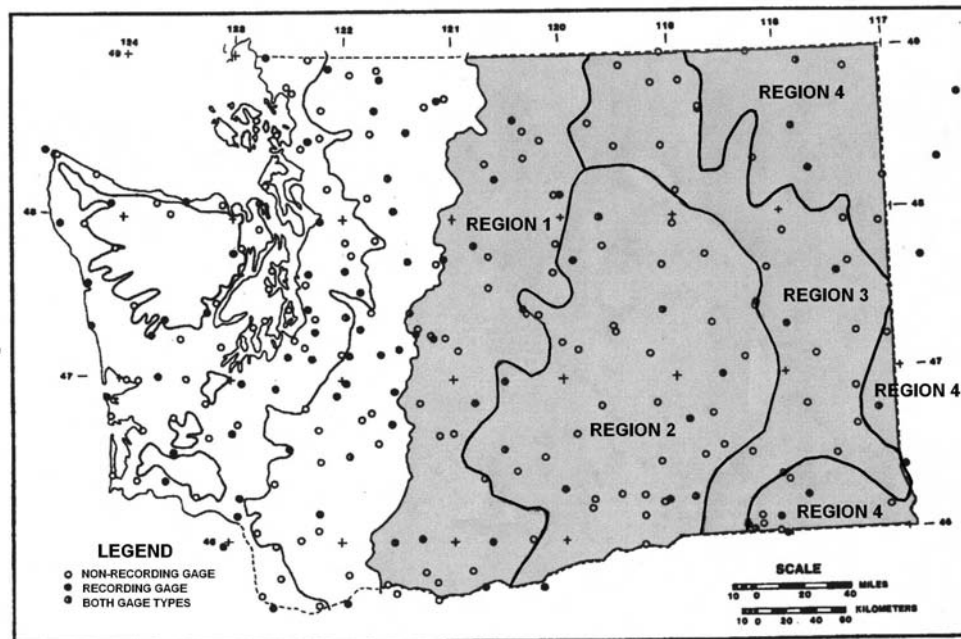


Figure A.1 – Approximate delineation of climatic regions in eastern Washington. A more detailed map is provided in Figure 4.3.1 of the *Stormwater Management Manual for Eastern Washington*.

5. Stabilize Soils:

a. Exposed and unworked soils shall be stabilized by application of effective BMPs that prevent erosion. This stabilization requirement applies to all soils on site, whether or not at final grade.

b. Depending on the geographic location of the project, no soils should remain exposed and unworked for more than the time periods set forth below to prevent erosion.

- In the portions of eastern Washington with mean annual precipitation greater than 12 inches (Regions 1, 3, & 4; see [Figure A.1](#)):

- During the regional dry season (July 1 through September 30): 10 days
- During the regional wet season (October 1 through June 30): 5 days
- In the portions of eastern Washington with mean annual precipitation less than 12 inches (Region 2; see [Figure A.1](#)):
 - During the regional dry season (July 1 through September 30): 30 days
 - During the regional wet season (October 1 through June 30): 15 days

The time period may be adjusted under a Qualified Local Program if the jurisdiction can show that local precipitation data justify a different standard.

c. Soils shall be stabilized at the end of the shift before a holiday or weekend if needed based on the weather forecast.

d. Soil stockpiles must be stabilized from erosion, protected with sediment trapping measures, and where possible, be located away from storm drain inlets, waterways and drainage channels.

6. Protect Slopes:

a. Design and construct cut and fill slopes in a manner that will minimize erosion. Consider soil type and its potential for erosion.

b. Stormwater from off site (run-on) or groundwater shall be diverted away from slopes and undisturbed areas with interceptor dikes, pipes and/or swales. Stormwater from off site should be managed separately from stormwater generated on the site.

c. At the top of slopes, collect drainage in pipe slope drains or protected channels to prevent erosion. Temporary pipe slope drains shall handle the expected peak flow velocity from a 6-month, 3-hour storm for the developed condition; this “short duration storm” is described in Chapter 4 of the *Stormwater Management Manual for Eastern Washington*.

d. Excavated material shall be placed on the uphill side of trenches, consistent with safety and space considerations.

e. Check dams shall be placed at regular intervals within constructed channels that are cut down a slope.

7. Protect Drain Inlets:

a. Storm drain inlets made operable during construction shall be protected so that stormwater runoff does not enter the conveyance system without first being filtered or treated to remove sediment.

b. Inlet protection devices shall be cleaned or removed and replaced when sediment has filled one-third of the available storage, unless a different standard is specified by the product manufacturer.

8. Stabilize Channels and Outlets:

a. All temporary on-site conveyance channels shall be designed, constructed, and stabilized to prevent erosion from the peak flow velocity of the 6-month, 3-hour storm (the “short duration storm,” see 6.c above) for the developed condition.

b. Stabilization, including armoring material, adequate to prevent erosion of outlets, adjacent stream banks, slopes, and downstream reaches shall be provided at the outlets of all conveyance systems.

9. Control Pollutants:

a. All pollutants, including waste materials and demolition debris, that occur on site during construction shall be handled and disposed of in a manner that does not cause contamination of stormwater.

b. Cover, containment, and protection from vandalism shall be provided for all chemicals, liquid products, petroleum products, and other materials that have the potential to pose a threat to human health or the environment. On-site fueling tanks shall include secondary containment.

c. Maintenance, fueling and repair of heavy equipment and vehicles must be conducted using spill prevention and control measures. Contaminated surfaces shall be cleaned immediately following any spill incident.

d. Wheel wash or tire bath wastewater shall be discharged to a separate on-site treatment system or to the sanitary sewer.

e. Application of fertilizers and pesticides shall be conducted in a manner and at application rates that will not result in loss of chemical to stormwater runoff. Manufacturers' label requirements for application rates and procedures shall be followed.

f. BMPs shall be used to prevent or treat contamination of stormwater runoff by pH modifying sources. These sources include bulk cement, cement kiln dust, fly ash, new concrete washing and curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, and concrete pumping and mixer washout waters. The pH of the stormwater runoff from the site shall be adjusted if necessary to prevent violations of water quality standards.

10. Control De-Watering:

a. Foundation, vault, and trench de-watering water that has characteristics similar to stormwater runoff at the site shall be discharged into a controlled conveyance system prior to discharge to a sediment trap or sediment pond.

b. Clean, non-turbid de-watering water, such as well-point ground water, can be discharged to systems tributary to state surface waters, as specified in Element #8, provided the de-watering flow does not cause erosion or flooding of receiving waters. These clean waters should not be routed through stormwater sediment ponds.

c. Other disposal options may include: (i) infiltration; (ii) transport off site in vehicle, such as a vacuum flush truck, for legal disposal in a manner that does not pollute state waters; (iii) Department-approved on-site chemical treatment or other suitable treatment technologies; (iv) sanitary sewer discharge with local sewer district approval, if there is no other option; or (v) use of a sedimentation bag with outfall to a ditch or swale for small volumes of localized dewatering.

d. Highly turbid or contaminated dewatering water shall be handled separately from stormwater.

11. Maintain BMPs:

a. All temporary and permanent erosion and sediment control BMPs shall be maintained and repaired as needed to assure continued performance of their intended function in accordance with BMP standards and specifications.

b. All temporary erosion and sediment control BMPs shall be removed within 30 days after final site stabilization is achieved or after the temporary BMPs are no longer needed.

12. Manage the Project:

a. *Phasing of construction:* Development projects shall be phased to the maximum extent feasible and shall take into account seasonal work limitations.

b. *Inspection:* All BMPs shall be inspected, maintained, and repaired as needed to assure continued performance of their intended function. Site inspections shall be performed by a person who is knowledgeable in the principles and practices of erosion and sediment control.

1 The inspector must have the skills to (i) assess the site conditions and construction activities
2 that could impact the quality of stormwater, and (ii) assess the effectiveness of erosion and
3 sediment control measures used to control the quality of stormwater discharges. The
4 inspector shall be a Certified Erosion and Sediment Control Lead who shall be identified in
5 the SWPPP and shall be on-site or on-call at all times. Certification shall be obtained
6 through an approved erosion and sediment control training program that meets the minimum
7 training standards established by the Department. Site inspections shall be conducted at least
8 once every calendar week and within 24 hours following any half-inch per day storm events.
9 The inspection frequency for temporarily stabilized, inactive sites may be reduced to once
10 every month. Inspections shall include all areas disturbed by construction activities and all
11 stormwater discharge points. The results of each inspection shall be summarized in an
12 inspection report or checklist and be entered into or attached to the site log book. At a
13 minimum, each report or checklist must include: (i) date and time of inspection; (ii) weather
14 information and approximate depth of precipitation since the last inspection and within the
15 prior 24 hours; (iii) a summary or list(s) of all BMPs implemented and all BMPs inspected,
16 and notations of any BMPs that failed to operate or otherwise need maintenance, repair,
17 modification, or installation, and reason(s) why; (iv) a description of stormwater discharged
18 from the site, including presence of any turbidity, discoloration, and/or sheen; (v) any water
19 quality monitoring performed during the inspection; (vi) general comments and notes; (vii) a
20 statement that, in the judgment of the person conducting the inspection, the site is either in or
21 out of compliance with the SWPPP, and, if necessary, a summary of actions, including an
22 implementation schedule, that are required to bring the site into compliance; (viii) name, title,
23 and signature of the person conducting the inspection, and the following statement, "I certify
24 under penalty of law that this report is true, accurate, and complete, to the best of my
25 knowledge and belief. I am aware that there are significant penalties for submitting false
26 information, including the possibility of fine and imprisonment for knowing violations."
27 c. *Monitoring*: Sampling and analysis of the stormwater discharges from the site shall be
28 conducted as required by the plan approval authority, who shall establish requirements for
29 the frequency and location of sample collection and the parameters to be analyzed.
30 d. *Maintaining an Updated Construction SWPPP*: The SWPPP shall be retained on-site or
31 within reasonable access to the site for reference and use by project personnel. The SWPPP,
32 including the map, shall be modified whenever there is a significant change in the design,
33 construction, operation, or maintenance at the site that has or could have a significant effect
34 on the discharge of pollutants to waters of the state. The SWPPP shall be modified if, during
35 inspections or investigations conducted by the owner/operator, or the applicable local or state
36 regulatory authority, it is determined that the SWPPP is or would be ineffective in
37 eliminating or significantly minimizing pollutants in stormwater discharges from the site.
38 The SWPPP shall be modified as necessary to include additional or modified BMPs designed
39 to correct problems identified. Revisions to the SWPPP shall be completed within 7 calendar
40 days following the inspection and shall include an updated timeline for BMP
41 implementation. BMP revisions shall be implemented on site as soon as possible and before
42 the next storm event whenever feasible.

Core Element #3: Source Control of Pollution

Requirements

Following construction, projects meeting the Regulatory Threshold shall apply all known, available and reasonable source control BMPs. Operational and structural source control BMPs shall be selected, designed, and maintained according to the *Stormwater Management Manual for Eastern Washington* or an equivalent document.

Operational source control BMPs may not be sufficient to protect wetlands from salts and other chemical anti-icers and deicers that can accumulate and impact the biological functions of a wetland, so use of such chemicals should be limited in the areas discharging to a wetland.

Separation and routing of runoff to an alternate discharge location may be necessary to protect the wetland from runoff from road and other surfaces subject to such chemical use.

Core Element #4: Preservation of Natural Drainage Systems

Requirements

All projects meeting the Regulatory Threshold must preserve natural drainage systems to the extent possible at the site: allowing that some change in natural flow patterns is unavoidable following development, stormwater should be discharged in a similar manner, at the same or nearby location, and at close to the same flow rate and volume as under the conditions that existed prior to the project.

The manner by which runoff is discharged from the project site must not cause a significant adverse impact to downstream receiving waters and down-gradient properties and should be addressed as part of the off-site analysis described in Appendix 3A of the *Stormwater Management Manual for Eastern Washington*, or an equivalent document.

All outfalls must address energy dissipation as necessary. A project proponent who believes that energy dissipation should not be required for a new outfall must provide justification in the project's stormwater site plan or drainage study report.

Discharge of stormwater to existing jurisdictional wetlands, either directly or via a conveyance system, should be avoided unless the wetland receives surface runoff from the existing site. If possible, only stormwater from landscape and roof areas should be discharged to wetlands. The discharge must comply with all applicable Core Elements to ensure that wetlands receive the same level of protection as any other waters of the state. See Core Elements #5 Runoff Treatment and #6 Flow Control for guidelines for evaluating whether an existing wetland may be used as a runoff treatment or flow control facility.

Core Element #5: Runoff Treatment

Definitions

Note that the definitions in the Redevelopment section above also apply to this section for:

- Pollutant Generating Impervious Surfaces (PGIS), and
- Average Daily Traffic (ADT) and Trip End Counts, and
- High-Use Sites

1 Non-Pollutant Generating Impervious Surfaces (NPGIS) are considered to be insignificant
2 sources of pollutants in stormwater runoff. Roofs that are subject only to atmospheric deposition
3 or normal heating, ventilation, and air conditioning vents are considered NPGIS, unless the
4 roofing material is uncoated metal. The following may also be considered NPGIS: paved bicycle
5 pathways and pedestrian sidewalks that are separated from and not subject to drainage from
6 roads for motor vehicles, fenced fire lanes, infrequently used maintenance access roads, and “in-
7 slope” areas of roads. Sidewalks that are regularly treated with sand, salt or other de-icing/anti-
8 icing agents are not considered NPGIS.

9 Low ADT Roadways and Parking Areas are urban roads with ADT fewer than 7,500 vehicles per
10 day; rural roads and freeways with ADT less than 15,000 vehicles per day; and parking areas
11 with less than 40 trip ends per 1,000 SF of gross building area or fewer than 100 total trip ends
12 per day are considered to be low-use traffic areas. Examples include most residential parking,
13 and employee-only parking areas for small office parks or other commercial buildings. Urban
14 roads are located within designated Urban Growth Management Areas; rural roads are located
15 outside designated Urban Growth Management Areas. Freeways, defined as fully controlled and
16 partially controlled limited access highways, may be located either inside or outside of Urban
17 Growth Management Areas.

18 Moderate ADT Roadways and Parking Areas are urban roads with ADT between 7,500 and
19 30,000 vehicles per day; rural roads and freeways with ADT between 15,000 and 30,000
20 vehicles per day; and parking areas with between 40 and 100 trip ends per 1,000 SF of gross
21 building area or between 100 and 300 total trip ends per day are considered to be moderate-use
22 traffic areas. Examples include visitor parking for small to medium commercial buildings with a
23 limited number of daily customers. Urban roads are located within designated Urban Growth
24 Management Areas; rural roads are located outside designated Urban Growth Management
25 Areas. Freeways, defined as fully controlled and partially controlled limited access highways,
26 may be located either inside or outside of Urban Growth Management Areas.

27 High ADT Roadways and Parking Areas are any road with ADT greater than 30,000 vehicles per
28 day; and parking areas with more than 100 trip ends per 1,000 SF of gross building area or
29 greater than 300 total trip ends are considered to be high-use traffic areas. Examples include
30 commercial buildings with a frequent turnover of customers and other visitors.

31 Moderate-Use Sites include moderate ADT roadways and parking areas (see definition above);
32 primary access points for high-density residential apartments; most intersections controlled by
33 traffic signals; and transit center bus stops. These sites are expected to generate sufficient
34 concentrations of metals that additional runoff treatment is needed to protect water quality in
35 non-exempt surface waters.

36 **Exemptions**

37 Any of the runoff treatment exemptions below may be negated by requirements set forth in a
38 Total Maximum Daily Load (TMDL) or other water cleanup plan.

39 Basic Treatment Exemptions: Non-pollutant generating impervious surface (NPGIS) areas are
40 exempt from basic treatment requirements unless the runoff from these areas is not separated
41 from the runoff generated from pollutant generating impervious (PGIS) surface areas. All runoff
42 treatment facilities must be sized for the entire flow that is directed to them. Projects that meet
43 the requirements for dispersal and infiltration (see Chapter 6 of the *Stormwater Management*

Manual for Eastern Washington, particularly BMP T5.30) and do not meet the requirements for oil treatment are exempt from basic treatment requirements. Discharges to surface water from projects with a total PGIS area <5,000 square feet are exempt from basic treatment requirements unless those areas are subject to the storage or handling of hazardous substances, materials or wastes as defined in 49 CFR 171.8, RCW 70.105.010, and/or RCW 70.136.020.

Metals Treatment Exemptions: Unless a specific water quality problem has been identified, the following discharges are exempt from additional metals treatment requirements:

- Discharges to non-fish-bearing streams.
- Direct discharges to the main channels of the following rivers and direct discharges to the following lakes: Banks Lake, Lake Chelan, Columbia River, Grande Ronde River, Kettle River, Klickitat River, Methow River, Moses Lake, Potholes Reservoir, Naches River, Okanogan River, Pend Oreille River, Similkameen River, Snake River, Spokane River, Wenatchee River, and Yakima River.
- Subsurface discharges covered under this permit.
- Restricted residential and employee-only parking areas, unless subject to through traffic.

Certain exemptions may also exist for Category 4 wetlands (see “Use of Existing Wetlands to Provide Runoff Treatment” under the Requirements section below).

Oil Treatment Exemptions: There are no exemptions from oil control requirements listed in this Appendix.

Requirements

Runoff treatment is required for projects meeting the Regulatory Threshold when the Technical Thresholds/Requirements below for Basic Treatment, Metals Treatment, Oil Control, or Phosphorus Treatment are met. Treatment facilities shall be selected, designed, sized, constructed, operated and maintained in accordance with this Appendix and the guidance in Chapters 4 and 5 of the *Stormwater Management Manual for Eastern Washington*, or an equivalent document.

All Cities and Counties covered under this Permit must require runoff treatment facilities to be sized for the applicable design storm(s) described in this section: each jurisdiction must identify a preferred method for sizing treatment facilities or provide alternative guidance. All runoff treatment facilities must be sized for the entire flow that is directed to them.

When Core Element #5 Runoff Treatment is required, Core Element #7 Operation and Maintenance also is required.

Basic Treatment Requirements

Basic runoff treatment (to remove solids) is required for all projects creating 5,000 square feet or more of pollutant-generating impervious surfaces. Treatment is required for discharges to all surface waters of the state, including perennial and seasonal streams, lakes and wetlands where the PGIS threshold is met. Certain exemptions may exist for Category 4 wetlands (see later section on “Use of Existing Wetlands to Provide Runoff Treatment”). Runoff treatment is also required for discharges of stormwater to ground that are covered by this Permit, where the vadose zone does not provide adequate treatment capacity (see Chapter 5.6 the *Stormwater Management Manual for Eastern Washington*, or an equivalent document).

**Metals
Treatment
Requirements**

Unless exempt, metals treatment is required in addition to basic runoff treatment for moderate-use sites, high-use sites, and sites that meet any of the following definitions:

- Industrial sites as defined by EPA (40 CFR 122.26(b)(14)) with benchmark monitoring requirements for metals; or industrial sites subject to handling, storage, production, or disposal of metallic products or other materials, particularly those containing arsenic, cadmium, chromium, copper, lead, mercury, nickel or zinc.
- On-street parking areas of municipal streets in commercial and industrial areas.
- Highway rest areas.
- Runoff from metal roofs not coated with an inert, non-leachable material.

**Oil Control
Requirements**

Oil control is required for all high-use sites and high ADT roadways and parking areas. Some sites will require a spill control type of oil control facility (see Chapter 8 of the *Stormwater Management Manual for Eastern Washington*) for source control separately from or in addition to this treatment requirement. Oil control is required in addition to any other runoff treatment required per this Core Element.

Separator technologies are required only for the following high-use sites:

- High-density intersections with expected ADT of 25,000 or more vehicles on main roadway and 15,000 or more vehicles on any intersecting roadway,
- Non-employee parking areas of commercial or industrial sites with trip end counts greater than 100 vehicles per 1,000 SF gross building area or greater than 300 vehicles total,
- Areas of commercial and industrial sites subject to use, storage, or maintenance of a fleet of 25 or more vehicles that are over ten tons gross weight,
- Fueling stations and facilities, and
- Sites subject to petroleum transfer in excess of 1,500 gallons per year, not including routinely delivered heating oil.

At all other high-use sites and high ADT traffic areas subject to the oil control requirement, sorptive technologies are required: basic treatment methods with sorptive properties, such as swales or filters, could be selected to fulfill this requirement; or catch basin inserts might be used at these sites.

High-use roadway intersections shall treat lanes where vehicles accumulate during the signal cycle, including left and right turn lanes and through lanes, from the beginning of the left turn pocket. If no left turn pocket exists, the treatable area shall begin at a distance equal to three car lengths from the stop line. If runoff from the intersection drains to more

than two collection areas that do not combine within the intersection, treatment may be limited to any two of the collection areas where the cars stop.

High-use sites and high ADT roadways and parking areas must treat runoff from the high-use portion of the site using oil control treatment options in Chapter 5 of the *Stormwater Management Manual for Eastern Washington* prior to discharge or infiltration. For high-use sites located within a larger project area, only the impervious area associated with the high-use site is subject to oil control treatment, but the flow from that area must be separated; otherwise the treatment controls must be sized for the entire area.

**Phosphorus
Treatment
Requirements**

Phosphorus treatment is required only where federal, state, or local government has determined that a water body is sensitive to phosphorus and that a reduction in phosphorus from new development and redevelopment is necessary to achieve the water quality standard to protect its beneficial uses. Where it is deemed necessary, a strategy shall be adopted to achieve the reduction in phosphorus.

Treatment Facility Sizing

Each treatment BMP is sized based on a water quality design volume, or a water quality design flow rate. Cities and Counties shall adopt criteria to provide for consistent sizing of treatment facilities. The computational methods for predicting runoff volumes and flow rates for the proposed development condition are included in Chapter 4 of the *Stormwater Management Manual for Eastern Washington*. Specific design criteria for treatment facilities also may be identified in Chapter 5 of the *Stormwater Management Manual for Eastern Washington*. Public road projects may be designed using BMPs in the Washington State Department of Transportation *Highway Runoff Manual* if the Core Elements for New Development and Redevelopment in this Appendix are met.

Water quality design volume: Each City and County shall specify which of the following methods will be used to determine treatment volumes in their jurisdiction; the default method is “Runoff Volume Method 1” in Regions 1 and 4; and “Runoff Volume Method 2” in Regions 2 and 3 (see [Figure A.1](#) under Core Element #2; a more detailed map is provided in Chapter 4 of the *Stormwater Management Manual for Eastern Washington* (see figure 4.3.1)). Volume-based treatment BMPs are sized the same whether located upstream or downstream from detention facilities.

- *Runoff Volume Method 1:* The volume of runoff predicted for the proposed development condition from the regional storm with a 6-month return frequency. An alternative to this method is the modified Type IA storm described in Chapter 4.2 of the *Stormwater Management Manual for Eastern Washington*; this alternative method is intended for use on small projects where the designer’s software does not accept storms longer than 24 hours.
- *Runoff Volume Method 2:* The volume of runoff predicted for the proposed development condition from the SCS Type IA 24-hour storm with a 6-month return frequency.
- *Runoff Volume Method 3:* In Regions 2 and 3, volume-based facilities may be sized for 0.5 inch predicted runoff produced for the proposed development condition from all impervious surface areas that contribute flow to the treatment facility. (This method is modified for

design of BMP T5.30 Bio-infiltration swale in Chapter 5 of the *Stormwater Management Manual for Eastern Washington*.)

- *Runoff Volume Method 4*: The volume of runoff predicted for the proposed development condition from the SCS Type II storm with a 6-month return frequency.
- *Runoff Volume Method 5*: Another sizing approach and criteria based on peer-reviewed methods and supported by local data that meet the objective of treating at least 90% of the annual volume of runoff from the site. Snowmelt should be considered in determining the water quality design volume if this method is selected.

Water quality design flow rate: Flow-rate-based treatment BMPs are sized differently depending on whether they are located upstream or downstream from detention facilities, if detention is required. For runoff treatment facilities sited downstream of detention facilities, the design flow rate is the full 2-year release rate of the detention facility. For runoff treatment facilities preceding detention facilities or when detention facilities are not required, each City and County shall specify which of the following methods will be used to determine flow rates in their jurisdiction; the default method is “Flow Rate Method 1.” For large facilities receiving inflow from multiple sources, the flow rate generated by the regional or Type IA storm should also be checked.

- *Flow Rate Method 1*: The runoff flow rate predicted for the proposed development condition from the short-duration storm with a 6-month return frequency. Time intervals are specified in the BMP designs.
- *Flow Rate Method 2*: The runoff flow rate predicted for the proposed development condition from the SCS Type II 24-hour storm with a 6-month return frequency. Time intervals are specified in the BMP designs.
- *Flow Rate Method 3*: The runoff flow rate for the proposed development condition calculated by the Rational Method using the 2-year Mean Recurrence Interval (see Chapter 4.7 of the *Stormwater Management Manual for Eastern Washington*). This method may only be used to design facilities based on instantaneous peak flow rates.

Bypass Requirements

A bypass must be provided for all treatment BMPs unless the facility is able to convey the 25-year short-duration storm without damaging the BMP or dislodging pollutants from within it. Extreme runoff events may produce high flow velocities through BMPs that can damage and or dislodge pollutants from within the facility. The designer must: check the maximum allowable velocity (typically less than 2 ft/s) or shear stress specified for the BMP; and implement a flow bypass as necessary to prevent exceeding these velocities. Bypass is not recommended for wet ponds, constructed wetlands, and similar volume-based treatment facilities; inlet structures for these facilities should be designed to dampen velocities; the pond dimensions will further dissipate the energy.

Use of Existing Wetlands to Provide Runoff Treatment

Stormwater treatment facilities are not allowed within a wetland or its natural vegetated buffer except for:

- Necessary conveyance systems approved by the local government; or
- As allowed in a wetland mitigation plan; or
- When the requirements below are met.

A wetland can be considered for use in stormwater treatment if:

- The wetland meets the criteria for “Hydrologic Modification of a Wetland” in Core Element #6 Flow Control; and either
- It is a Category 4 wetland according to the *Eastern Washington Wetland Rating System*; or
- It is a Category 3 wetland according to the *Eastern Washington Wetland Rating System* and the wetland has been previously disturbed by human activity, as evidenced by agriculture, fill areas, ditches *or* the wetland is dominated by introduced or invasive weedy plant species as identified in the rating analysis.

Basic treatment is required prior to discharge to Category 3 wetlands; a Category 3 wetland that meets the above requirements may be used to meet metals treatment requirements. Oil control is required for a discharge to wetlands if the Technical Thresholds/Requirements are met.

Mitigation shall be required for the impact of using a wetland as a stormwater treatment facility. Appropriate measures include enhancement, expansion and/or preservation of a buffer around the wetland.

Core Element #6: Flow Control

Definitions

Existing conditions are the impervious surfaces, drainage systems, land cover, native vegetation and soils that exist at a site prior to any changes associated with achieving the proposed development conditions. Approved permits and engineering plans may be required. If sites have impervious areas and drainage systems that were built without approved permits, then the existing condition is defined as those that existed prior to the issue date of this Permit. Existing conditions may be verified by using aerial photography or other records. Existing conditions are used for hydrologic analysis at the site unless a City or County imposes other requirements.

Pre-development conditions are the native vegetation and soils that existed at a site prior to the influence of Euro-American settlement. Jurisdictions may choose to require that either the pre-developed condition or the “existing condition” be used to calculate runoff volumes to be compared to the runoff generated under the “proposed development condition.” Because there is limited information available to identify and confirm actual pre-developed conditions for many areas of eastern Washington, jurisdictions may choose to apply a reasonably determined set of conservative curve numbers for use in determining the runoff volume compared to that under the proposed development condition.

Proposed development conditions are the impervious surfaces, drainage systems, land cover, native vegetation and soils that are proposed to exist at the site at the completion of the project (complete build-out). Also called “post-developed conditions.”

Hydrologic modification of a wetland means, for the purpose of stormwater management, that the wetland will receive a greater total volume of surface runoff following the proposed development than it receives in the current condition.

Exemptions

The following projects and discharges are exempt from flow control requirements to protect stream morphology:

1. Any project able to disperse, without discharge to surface waters, the total 25-year runoff volume for the proposed development condition on property that is under the functional control of the project proponent. See the guidelines for dispersion in Chapter 6.5 of the *Stormwater Management Manual for Eastern Washington*, particularly BMP F6.42.
2. A road project able to disperse, without discharge to surface waters, the total 25-year runoff volume for the proposed development condition on land for which this use has been specifically authorized by the controlling entity. See the guidelines for dispersion in Chapter 6.5 of the *Stormwater Management Manual for Eastern Washington* or the Washington State Department of Transportation *Highway Runoff Manual*.
3. A project constructing less than 10,000 square feet of total impervious surfaces. Local jurisdictions may establish a different impervious surface area threshold (see Core Element #8 Local Requirements).
4. A project discharging to stream reaches consisting primarily of irrigation return flows and not providing habitat for fish spawning and rearing. Projects should match the pre-developed or existing condition 2-year and 25-year peak runoff rates for these discharges. The local irrigation district may impose other requirements.
5. A project discharging directly to any of the rivers or lakes listed or meeting the requirements under “Exempt surface waters” below. Projects may also discharge to these waters through a publicly owned conveyance system with sufficient capacity; permission must be granted by the owner/operator of the conveyance system. In order to be exempted, the discharge must meet all of the following requirements:
 - a. The project area must be drained by a conveyance system that is comprised entirely of manmade conveyance elements (e.g., pipes, ditches, outfall protection); and
 - b. The conveyance system must extend to the ordinary high water line of the receiving water, or (in order to avoid construction activities in sensitive areas) flows must be properly dispersed before reaching the buffer zone of the sensitive or critical area; and
 - c. Any erodible elements of the conveyance system for the project area must be adequately stabilized to prevent erosion; and
 - d. Surface water from the project area must not be diverted from or increased to an existing wetland, stream, or near-shore habitat sufficient to cause a significant adverse impact. Adverse impacts are expected from uncontrolled flows causing a significant increase or decrease in the 1.5- to 2-year peak flow rate.

Exempt surface waters:

The following lakes:

- Banks Lake
- Lake Chelan
- Cle Elum Lake
- Lake Easton
- Moses Lake
- Potholes Reservoir
- Rimrock Lake
- Reservoirs on the Columbia, Snake, Pend Oreille, or Spokane rivers; or
- Other reservoirs with outlet controls that are operated for varying discharges to the downstream reaches as for hydropower, flood control, irrigation, or drinking water supplies. Uncontrolled, flow-through impoundments are not exempt.

And any river or stream that is:

- Fifth order or greater as determined from a 1:24,000 scale map; or
- Fourth order or greater as determined from a 1:100,000 or larger scale map.

The maps should be standard USGS maps or GIS data sets derived from USGS base maps. The other provisions of this exemption must still be applied, and consideration should also be given to other information about the stream bed material and downstream channel conditions.

6. A project discharging to a wetland that has no surface water outlet does not need to meet the flow control requirements to protect stream morphology. Flow control may still be required to protect the wetland.

7. A project located at a site with less than 10" average annual rainfall that discharges to a seasonal stream which is not connected via surface flow to a non-exempt surface water by runoff generated by the 2-year Type IA storm.

8. A project that discharges to a stream which flows only during runoff-producing events. The runoff carried by the stream following the 2-year regional storm in Regions 1 and 4, or the Type IA storm in Regions 2 and 3, must not discharge via surface flow to a non-exempt surface water. The stream may carry runoff during an average annual snowmelt event but must not have a period of baseflow during a year of normal precipitation.

Any additional exemptions to this Core Element are left to the local jurisdiction based on basin planning and studies that consider: the total impervious area in the watershed under likely future development scenarios; other possible development impacts or contributions toward increasing future streamflow volumes and changing the stream channel morphology and/or increasing the potential for streambank erosion; other potential cumulative downstream effects; and unique habitat characteristics. Following analysis of a particular water body and/or its watershed, a local jurisdiction may determine that flow control is not necessary for certain discharges or to protect certain water bodies, or decide to provide a regional stormwater facility instead of requiring site-by-site flow control facilities.

These exemptions are provided to assist local jurisdictions in determining which projects should be subjected to this Core Element. Local jurisdictions may override any of the exemptions listed here, and any project may be subject to local requirements for flow control to prevent flooding.

Requirements

Non-exempt projects that meet the Regulatory Threshold shall construct stormwater flow control facilities for any discharge of stormwater directly, or through a conveyance system, into surface water. Flow control facilities shall be selected, designed, constructed, operated and maintained according to the criteria in Chapters 4 and 6 of the *Stormwater Management Manual for Eastern Washington*, or an equivalent document. In order to prevent localized erosion, energy dissipation at the point of discharge is required for all projects unless site-specific conditions warrant an exception.

When Core Element #6 Flow Control is required, Core Element #7 Operation and Maintenance also is required.

Hydrologic Analysis

Runoff volumes and flow rates shall be estimated using the design storms and methods identified for the specific type and location of receiving water below and described in Chapter 4 of the

1 *Stormwater Management Manual for Eastern Washington*, or an equivalent document, or by an
2 alternate method approved by the local jurisdiction. Existing conditions at the site are used for
3 the analysis unless a City or County imposes other requirements.

4 ***Application to Non-Exempt Streams***

5 Projects shall limit the peak rate of runoff to 50% of the existing 2-year peak flow and maintain
6 the existing 25-year peak runoff rate. The entire 2-year runoff volume from the proposed
7 development condition shall be released at no more than 50% of the existing 2-year peak flow
8 rate. The design storm to be used for determining volumes and flow rates in Regions 1 and 4 is
9 the regional storm (an acceptable alternative for small projects when the designer's software
10 does not accept a storm longer than 24 hours is the modified Type IA storm described in Chapter
11 4.2 of the *Stormwater Management Manual for Eastern Washington*); the design storm for
12 Regions 2 and 3 is the Type IA storm. A custom modeling approach based on historical data or
13 rainfall-runoff studies may also be applied if approved by a City or County. Cities or Counties
14 also may require detention basins to be designed to match a different return-interval (e.g. 10-
15 year, 50-year, or 100-year) peak flow rate instead of or in addition to the 25-year peak flow rate.
16 See Chapter 6 of the *Stormwater Management Manual for Eastern Washington*, or an equivalent
17 document, for pond and release structure design information.

18 ***Considerations for Very Low Flow Rates***

19 If the existing condition 2-year flow rate is zero cubic feet per second, or the flow rate is so small
20 that it is impracticable to design a pond to release at the prescribed flow rate from an engineered
21 outlet structure, the total 2-year storm runoff volume from the proposed development condition
22 shall be infiltrated (preferred) or stored in a retention pond for evaporation, and the detention
23 pond designed to release the pre-developed 10-year and 25-year flow rates. A City or County
24 may require detention basins to be designed to match different return intervals (e.g., match only
25 the 10-year, or match the 50-year or 100-year peak flow rate instead of or in addition to the 25-
26 year peak flow rate).

27 ***Application to Wetlands and Lakes***

28 If the wetland does not have an outlet to a stream, or has a direct outlet to an exempt river or
29 lake, the project shall maintain the existing 2-year and 25-year peak runoff rates for the regional
30 storm in Regions 1 and 4 or the Type IA storm in Regions 2 and 3. If the wetland has an outlet
31 to a non-exempt stream, the project shall meet the flow control design requirement above to
32 protect the non-exempt stream. Category 3 or 4 wetlands may be excluded from this requirement
33 and used as detention and/or treatment facilities if the criteria below for "Hydrologic
34 Modification of a Wetland" (and in Core Element #5, for treatment) are met. Discharges to lakes
35 shall maintain the pre-developed or existing 2-year and 25-year peak runoff rates for the regional
36 storm in Regions 1 and 4 or the Type IA storm in Regions 2 and 3. A City or County may
37 require detention basins to be designed to match a different return-interval (e.g., 10-year, 50-
38 year, or 100-year) peak flow rate instead of or in addition to the 25-year peak flow rate for
39 discharges to either lakes or wetlands.

40 ***Hydrologic Modification of a Wetland***

41 A wetland can be considered for hydrologic modification if it is a Category 3 or 4 wetland
42 according to the *Eastern Washington Wetland Rating System* and:

- 43 • There is good evidence that the natural hydrologic regime of the wetland can be restored by
44 augmenting its water supply with excess stormwater runoff; or the wetland is under imminent

threat exclusive of stormwater management and could receive greater protection if acquired for a stormwater management project rather than left in existing ownership; and:

- The runoff is from the same natural drainage basin; the wetland lies in the natural routing of the runoff; and the site plan allows runoff discharge at the natural location. Exceptions may be made for regional facilities planned by the local jurisdiction, but the wetland should receive water from sites in the same watershed.

Hydrologic modification shall not be allowed if the wetland is classified as Category 1 or 2 according to the *Eastern Washington Wetland Rating System* unless the project proponent demonstrates that preferred methods of excess stormwater disposal (*e.g.*, infiltration) are not possible at the site and that other options (*e.g.*, evaporation) would result in more damage to the wetland by limiting baseflow.

Mitigation shall be required for the impact of hydrologic modification to a wetland. Appropriate measures include expansion, enhancement and/or preservation of a buffer around the wetland.

Core Element #7: Operation and Maintenance

Requirements

Where structural BMPs are required, projects shall operate and maintain the facilities in accordance with an Operation and Maintenance (O&M) plan that is prepared in accordance with the provisions in Chapters 5 and 6 of the *Stormwater Management Manual for Eastern Washington*, or an equivalent document. The O&M plan shall address all proposed stormwater facilities and BMPs, and identify the party (or parties) responsible for maintenance and operation; the O&M plan must also address the long-term funding mechanism that will support proper O&M. At private facilities, a copy of the plan shall be retained onsite or within reasonable access to the site, and shall be transferred with the property to the new owner. For public facilities, a copy of the plan shall be retained in the appropriate department. A log of maintenance activity that indicates what actions were taken shall be kept and be available for inspection.

Cities or Counties may develop generic O&M plans, including checklists of actions and procedures for the operators, for BMPs that are commonly used in public projects; commercial and residential property developers may also develop generic O&M plans, including checklists of actions and procedures for the operators, for BMPs that are commonly used in their projects.

Core Element #8: Local Requirements

Requirements

Additional local requirements determined to be necessary to protect water quality must also be applied to all new development and redevelopment projects.